

# Triplex and Aerator Systems

## For Iron and Manganese Removal



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When rain falls, the water has a naturally aggressive, slightly acidic nature. This water then dissolves chalk and/or metallic deposits present in the local rock strata which contaminates the water.

This results in ground and borehole water containing a number of elements that would not normally be present in mains water.

These contaminants (such as Iron and Manganese) then cause problems when the water is put to use.

Acidic water results in corrosion of pipework, heating cylinders, and equipment. Any Iron and Manganese present will result in poor tasting drinking water, in addition to staining baths, basins and any appliances with which the water may come into contact.

These problematic waters can be treated with a Triplex system to both raise the pH and remove the Iron and Manganese. Firstly the water is passed through an aerator contact assembly which entrains air into the water to encourage initial precipitation of the contaminants. This has the effect of reducing the overall load on the filter media, making the complete removal of the contaminants much more efficient.

The Triplex vessel uses a unique blend containing a pH correction media, an Iron and Manganese removal media, and a physical filter media. This works in three ways and has the combined effect of raising the the pH of the water (eliminating the acidity), precipitating any dissolved Iron and Manganese in the water, and finally filtering out this precipitate. Clean treated water is then passed to service ready for use.



2510 Valved Filter and 1354 Aerator Contact Assembly

Unlike other Iron and Manganese removal systems, the Triplex filter has an equal backwash and service flow. This means that the load on the borehole pump is minimised, with no requirement for backwash booster pumps. This makes Triplex ideally suited to domestic and light commercial applications with flow rates up to 4m<sup>3</sup> per hour.

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## System Management, Backwashing and Regeneration

The aerator contact assembly is installed between the borehole pump and accumulator on a pressurised system, to enable a consistent flow through the aerator. This results in the air venturi working effectively at all times.

The Triplex filter is installed downstream of the accumulator. For non-pressurised systems relying on tank level switches to activate the borehole pump, A micro-switch inside the filter valve is used to operate the borehole pump for backwashing

Untreated water can be prevented from bypassing to service during backwash by using a close down valve fitted to the standard backwash valve, or by specifically modifying the valve during manufacture of the filter. Triplex models FT350 to FT750 have a bypass leg fitted to maintain high service flow through the aerator contact assembly, while still maintaining good levels of aeration. In areas of high organic loading, or waters with high levels of manganese, pre-treatment with ozone may be advisable. Alternatively intermittent backwashing with a dilute chlorine solution may be employed.

## Technical Details and Model Number

Triplex Model	FT120	FT1150	FT200	FT250	FT350	FT1500	FT600	FT750
Filter Vessel Reference	1044	1054	1248	1354	1465	1665	1865	2160
Aerator Vessel Reference	1044	1044	1044	1044	1354	1354	1354	1354
Service/Backwash flow lpm	15	18	22	26	31	41	50	70
Filter Height mm	1360	1610	1460	1610	1890	1895	2020	1850
Filter Diameter mm	270	270	315	335	370	410	510	560
Aerator Height mm	1275	1275	1275	1275	1520	1520	1520	1520
Aerator Diameter mm	250	250	250	250	330	330	330	330

*NB. To prevent damage to the vessel these filters must be protected from negative pressure from the drain or from the supply. An air break check valve is recommended on the inlet supply.*

### Special Product Features:-

- \* Improved performance over existing Iron & Manganese filters
- \* Light media for easier backwashing
- \* Aeration and degassing in same unit
- \* Reduces Hydrogen Sulphide
- \* Raises pH
- \* Aerator manufactured from plastic parts that can be acid cleaned
- \* High efficiency aerator venturi
- \* Easily maintained
- \* Maximised air/water contact within Aerator pressure vessel
- \* High flow 1" Couplings